

SAFEWORK NSW SAFETY ALERT

BUILDING MAINTENANCE UNITS AND SUSPENDED SCAFFOLD CRADLES

Safety Alert | 06/11/2015

This safety alert reminds owners and users of building maintenance units (BMUs) and suspended scaffolds of the need for ongoing inspection of critical components.

BACKGROUND

Two workers were seriously injured in October 2015 when the BMU cradle they were working in fell 10 storeys onto an awning below.

Initial investigations indicate the cause of the collapse was a failure of the connection between the winch and the cradle. This connection used a single bolt, loaded primarily in tension, at each of the two winches. It is believed one of these bolts failed, causing a sudden transfer of load to the bolt at the other end which then also failed.

The bolts are hidden within the connection and cannot be inspected without the connection being disassembled.



Failed bolt connecting the winch and the cradle

Inspections revealed that both bolts show signs of significant fatigue cracking which would have weakened the bolts, resulting eventually in the sudden failure without obvious external warning signs.

In a similar incident in 2009 the failure of a simpler connection on a suspended scaffold cradle was also due to undetected fatigue cracks. It resulted in the death of one worker and serious injury to another.



Suspended scaffold connection bracket failure showing fatigue cracks

ACTION REQUIRED

BMU and suspended scaffold cradle owners must:

- identify critical components in BMUs or scaffold cradles – eg where failure of a component would risk the safety of anyone in the vicinity of the BMU or suspended scaffold
- assess whether the current inspection and maintenance program adequately deals with these critical components, especially any components that need disassembly to inspect
- upgrade the inspection and maintenance program if necessary
- include non-destructive testing or regular replacement of components as part of the program where visual inspection alone is not adequate to detect potential developing defects, such as fatigue cracks
- carry out a major inspection on any BMU that is over 10 years old and has not yet had a major inspection
- carry out a major inspection on any BMU that has had a major inspection:
 - but is overdue for its next recommended major inspection, or
 - five years after the last major inspection where no recommendation was given.

FURTHER INFORMATION

Australian Standard [AS 2550.13-1997 Cranes – Safe use Part 13: Building maintenance units](#)